Claims

1. An interface for remote user input for reading a database, the interface comprising

an automatic question unit operable to determine whether a user is connected via at least one of a voice-based and a text-based capable communication link, and for eliciting input from a user in accordance with said determination;

a speech recognition unit for recognizing a human speech input;

a data recognition unit for recognizing a remote data input; and

a query formulation unit, coupled to said speech and data units, and operable both for formulating a searchable query from a recognized input by at least one of said speech and data recognition units, and for prompting said automatic question unit to elicit further input from the user;

and wherein the interface is associated with a database to search said database using said recognized input.

2. An interface according to claim 1, wherein said speech recognition unit comprises a speech-to-text converter operable to convert a user speech input into query information for said database, and wherein said database comprises text entries.

3.   An interface according to claim 1, wherein said speech recognition unit comprises a speech-to-phoneme converter operable to convert a user speech input into query information for said database, and wherein said database comprises entries made up of groups of one or more phonemes.

4.   An interface according to claim 1, wherein said speech recognition unit comprises a combined speech-to-text converter and speech-to-phoneme converter, operable to convert a user input into query information for said database.

5.   An interface according to claim 1, further comprising a confidence level determiner, associated with said speech recognition unit, said determiner being operable to determine a level of confidence of an output of said speech recognition unit.

6.   An interface according to claim 1, further comprising an output unit for outputting a search result, wherein said output unit is operable to provide speech and text outputs, and a selector for selecting one of the speech and text outputs based on a user's data receipt ability.

7.   An interface according to claim 6, wherein the interface is interfaceable to a mobile telephone data facility.

8.   An interface according to claim 7, wherein said mobile telephone data facility is one of a WEB, WAP, plain text and SMS.

9.   An interface according to claim 6, wherein the interface, is interfaceable to a messaging service.

10.   An interface according to claim 1, wherein said query formulation unit is operable to submit a recognized speech input as a query to search said database and, in the event of failure to obtain a match in said database, is further operable to prompt said automatic question unit to ask the user to spell said recognized speech input.

11.   An interface according to claim 10, further comprising associative linkage between associated names for widening searches on the basis of variations of input names.

12.   An interface according to claim 10, wherein said database is a contact directory having at least one contact point for each of a plurality of searchable database entries.

13.   An interface according to claim 12, wherein, for any searchable database entry having more than one contact point, a hierarchy of contact point types is provided to define which of said contact points to output first.

14.   An interface according to claim 12, wherein a contact point is usable as an input to obtain a searchable database entry.

15.   An interface according to claim 1, wherein said automatic voice question unit is programmable with a plurality of questions as a function of the size of the database.

16.   An interface according to claim 15, wherein said questions are storable in a hierarchy which corresponds to a predetermined search strategy for the database, and wherein said automatic voice question unit is operable to stop asking questions as soon as sufficient information has been obtained to terminate a database search.

17.   An interface according to claim 16, wherein the interface is operable to connect a user to a human operator when said hierarchy of questions has ended and a database search has not been terminated.

18.   An interface according to claim 16, wherein the interface is operable to connect a user to a human operator when a user input is not translatable into information usable for searching said database.

19. An interface according to claim 1, further comprising a confidence level determiner, associated with said speech recognition unit, and operable to determine a level of confidence for a recognition instance of said speech recognition unit, said confidence level determiner being further operable to connect a user to a human operator when a user input is associated with a confidence level lower that is less than a predetermined confidence threshold.

20. An interface according to claim 12, further comprising a switch for connecting a user to a contact point retrieved from said database.

21. An interface according to claim 1, further comprising a data exchange mechanism operable to bring about data interactivity between said database and a remotely located user database.

22. An interface according to claim 14, further operable to insert an identification of a caller into a header of a message left by said caller.

23. An interface according to claim 14 wherein said contact point is a telephone number.

24. An interface according to claim 22, wherein said identification is one of a text string, a photograph, an audio sequence and a video sequence.

25.　An interface according to claim 1, wherein said database is searchable to retrieve a location, and wherein said retrieved location is superimposable on one of a map, a video and a photograph.

26.　An interface according to claim 25, further comprising a graphical output unit operable to send said map to said user.

27.　An interface according to claim 25, wherein said map is in a location system operable to determine a current location of a user, said location system is operable to trace a route from said current location to said retrieved location.

28.　An interface according to claim 1, wherein said database comprises results fields including one of a text string field, a photograph field and a video sequence field.

29.　An interface according to claim 1, wherein said question unit comprises a speech output operable to output questions in spoken form to users connected via speech-enabled devices and a text output to output questions in text form to users connected via text-enabled devices.

30. A location system connectable to a location database comprising geographic location data associated with personal identification data usable in search queries to obtain an associated location, comprising:

a positioner for determining a current position of an enquirer, said location system operable to receive said location data from said location database in response to a query involving said personal identification data; anda route determiner for determining a route from said current position to said desired location using said location data.

31. A location system according to claim 30, wherein said location database is a directory associating subscriber identification data with subscriber address data.

32. A location system according to claim 30, further comprising a graphical output operable to output said route as a route on a map.

33. A location system according to claim 32, wherein said graphical output is operable to output said route in real time.

34. A location system according to claim 30, further comprising a combined voice and text output operable to determine whether a user is connected via one of voice capable and text capable communication, and

operable to output said route as a sequence of instructions in text and voice format in accordance with said determination.

35. A location system according to claim 34, wherein said combined voice and text output is operable to output said sequence of instructions in a preselected language.

36. A location system according to claim 35, wherein said sequence in said preselected language is obtainable from a corresponding sequence in a base language by real time automatic translation.

37. A location system according to claim 30, wherein said location data comprises map co-ordinates.

38. A location system according to claim 30, wherein said personal identification data comprises street address data and wherein said positioner is operable to translate street address data into corresponding map co-ordinates.

39. An interfacing method for a remote user input for reading a database, the method comprising:

determining, as a connection type, whether a user is connected via one of a voice-based, a text-based and a combined voice-text capable communication link,

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eliciting input from a user via either one of voice-and text based communication according to said connection type;

recognizing one of human speech and data input to said interface;

formulating a searchable query from said recognized input;

eliciting further input from a user unless a query sufficient for searching said database has been formulated;

and searching a database using the sufficient searchable said query.

40.   An interfacing method according to claim 39, further comprising:

determining whether an ambiguous answer is received from said database, and

if an ambiguous answer is received, then eliciting a further input from a user so as to obtain an unambiguous answer from said database.

41.   A method of remotely reading a database via a remote communication device having a communication mode, comprising:

entering a query request via said remote communication device in said communication mode,

sending said query request to a communication interface in said communication mode,

receiving instructions in said communication mode for entering query items to form a database search query,

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sending said query items in said communication mode for said interface to form a query for interrogating said database in a database interrogation mode to produce a query result for translation by said interface into said communication mode, and

receiving said result at said remote communication device from said interface in said communication mode.

42. A method according to claim 41, wherein said communication mode is a mode of voice communication.

43. A method according to claim 41, wherein said communication mode is of text communication mode.

44. A method according to claim 41, wherein said database interrogation mode is a text communication mode.

45. A method according to claim 42, wherein said database interrogation mode is phonemes communication mode.